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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,373	09/18/2003	John C.W. Ngan	2482	8499
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			EXAMINER MANOHARAN, MUTHUSWAMY GANAPATHY	
			ART UNIT 2617	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/666,373

Applicant(s)

NGAN, JOHN C.W.

ExaminerMUTHUSWAMY G.
MANOHARAN**Art Unit**

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2008.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-12 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-7 and 9-12 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/3/2008 has been entered.

Response to Arguments

Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 4, 5, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lencevicius et al. (hereinafter Lecevicius) (US 2004/0204183) in view of Akhteruzzaman et al. (hereinafter Akhteruzzaman) (US 6584316).

Regarding **claim 1**, Lencevicius discloses a method of activating call forwarding ("**call forwarding**", Paragraph [0030]) for a mobile station (item 10 in Figure 1), comprising the steps of:

monitoring a measure of received signal strength at said mobile station the measure of the received signal strength being a signal transmitted between a base station transceiver station of a cellular wireless telephone network and the mobile station ("**the signal power is then checked to see if the power level is above a predetermined level**", Note: checking the signal power reads on monitoring; "**if the signal power level is above the predetermined level then communication is allowed to proceed**", Paragraph [0038]; "**on a GSM network, the RF field strength can be used**", Paragraph [0039]; Figure 1);

automatically transmitting a first feature code from said mobile station to a wireless network when said monitored measure of received signal falls below a threshold level ("**once the power level drops below a predetermined threshold**", Paragraph [0024]), said first feature code activating call forwarding for said mobile station ("**relevant USSD to the network instructing call forwarding**", Paragraph [0030], "**well known in the art as admitted by the applicant**"; "**industry has many years employed a concept known as 'feature codes'**", from **Description of related art**, by the Applicant) such that incoming calls are directed to a voice mail ("**call forwarding functionality on the network, which is activated**" , "**call forwarding to the voice mailbox**"; Paragraph [0030]);

continuing to monitor signal strength of a signal transmitted from the base transceiver station and the mobile station during a period when call forwarding is activated ("**deferring of incoming communications is initiated**", Paragraph [0020]; "**the transmission is deferred until the signal power is above the predetermined level**", Paragraph [0038-0039])

automatically transmitting a second feature code from said mobile station to a wireless network when said signal strength rises above said threshold, said second feature code deactivating said call forwarding ("**call forwarding functionality on the network, which is activated or deactivated**"; Paragraph [0030]).

Lencevicius teaches both outgoing and incoming signals and further teaches transmission is deferred until the signal power is above the predetermined level (Paragraph [0038]). Therefore, it would be obvious to one of ordinary skill in the art at the time of invention to have both the outgoing and incoming communications are deferred ("incoming communications are being deferred", Paragraph [0032]) until the signal power is above the predetermined threshold. In order to perform the above requires continuing monitoring of a signal. In view of this it is obvious that Lencevicius teaches the limitation continuing to monitor signal strength of a signal (the loop including items 230 and 235 in Figure 7) transmitted from the base transceiver station and the mobile station during a period when call forwarding is activated automatically transmitting a second feature code ("USSD code" (Paragraph [0030]) reads on feature code) from said mobile station to a wireless network when said signal strength rises above said threshold, said second feature code deactivating said call forwarding.

Lencevicius did not teach specifically wherein incoming calls are directed to a previously programmed directory number. However, Akhteruzzaman teaches in an analogous art wherein incoming calls are directed to a previously programmed directory number (Col. 6, lines 41-46; item 126 in Fig 4). Therefore, it would be obvious to one of ordinary skill in the art at the time of invention to have incoming calls are directed to a previously programmed directory number as an alternative to direct calls to voice mail.

Regarding **claim 4**, Lencevicius teaches the method of claim 1, wherein said mobile station comprises a cellular telephone (Figure 1, "GSM network", Paragraph [0039]).

Regarding **claim 5**, Lencevicius teaches all the particulars of the claim except, , wherein the previously programmed directory number is changeable by a user of said mobile station by interactively entering said directory number. However, Akhteruzzaman teaches the method wherein the previously programmed directory number is changeable by a user of said mobile station by interactively entering said directory number (Col. 6, lines 28-31; Col. 7, lines 10-17; item 114 in Figure 2). Therefore, it would be obvious to one of ordinary skill in the art at the time of invention to use the method wherein the previously programmed directory number is changeable by a user of said mobile station by interactively entering said directory number. This modification gives user additional flexibility to choose the directory number with user interface of the mobile communication device (Lencevicius, Paragraph [0023])

Claim 11 is rejected for the same reason as set forth in claim 1. Please refer to Figure 3 for further clarification.

2. Claims 2, 3, 7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lencevicius et al. (hereinafter Lecevicus) (US 2004/0204183) in view of Akhteruzzaman et al. (hereinafter Akhteruzzaman) (US 6584316) and Lundborg (U.S. 6,782,262).

Regarding **claim 2**, the combination of Lencevicius and Akhteruzzaman discloses all the particulars of the claim, except wherein said step of monitoring a measure of received signal strength comprises the step of monitoring the ratio E_c / I_o , wherein E_c is a measure of carrier strength and I_o is a measure of interference. However, Lundborg teaches in an analogous art, step of monitoring a measure of received signal strength comprises the step of monitoring the ratio E_c / I_o , wherein E_c is a measure of carrier strength and I_o is a measure of interference (Col. 9, lines 8-10). Quality of a digital channel is measured by bit error rate (BER) on the up or down link and is related to the ratio E_c / I_o . Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use ratio E_c / I_o for setting the signal strength threshold.

Regarding **claim 3**, the combination of Lencevicius and Akhteruzzaman discloses all the particulars of the claim, except wherein said step of monitoring a measure of received signal strength comprises the step of monitoring a signal to noise ratio of a received signal from a base transceiver station in a cellular telephone network. However, Lundborg teaches in an analogous art, step of monitoring a measure of

received signal strength comprises the step of monitoring a signal to noise ratio of a received signal from a base transceiver station in a cellular telephone network (Col. 9, lines 20-22). Speech quality for an analog channel is measured by the signal to noise ratio on the up or down link. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use signal to noise ratio of a received signal from a base transceiver station in a cellular telephone network as a measure of received signal strength.

Regarding **claim 7**, the combination of Lencevicius and Akhteruzzaman discloses all the particulars of the claim, except wherein the threshold level is determined by an element in said wireless network and transmitted to said mobile station. However, Lundborg teaches in an analogous art, the method of call forwarding for a mobile station, wherein the threshold level is determined by an element in said wireless network and transmitted to said mobile station (Col. 9, lines 1-7). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method, wherein the threshold level is determined by an element in said wireless network and transmitted to said mobile station. The variation of the threshold based on the mobile station has to be taken into account in order to improve the efficiency of communication.

Regarding **claim 10**, the combination of Lencevicius and Akhteruzzaman discloses all the particulars of the claim, except wherein the monitored measure of received signal strength remains below the threshold level for predetermined period of time. However, Lundborg teaches in an analogous art, discloses the method, the

monitored measure of received signal strength remains below the threshold level for predetermined period of time (items 64 and 66 in Figure 6; 51-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method; wherein the first feature code is transmitted if the monitored measure of received signal strength remains below the threshold level for predetermined period of time. This waiting period is required in order to avoid performing call activating/deactivating too often.

3. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lencevicius et al. (hereinafter Lecevicius) (US 2004/0204183) in view of Akhteruzzaman et al. (hereinafter Akhteruzzaman) (US 6584316) and Lo (U.S. RE37, 301E).

Regarding **claim 6**, the combination of Lencevicius and Akhteruzzaman discloses all the particulars of the claim, except wherein said feature code is sent to said wireless network over an access channel. However, Lo teaches in an analogous art, wherein said feature code is sent to said wireless network over an access channel (Col. 2, lines (66-67)). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the method of activating call forwarding for a mobile station wherein said feature code is sent to said wireless network over an access channel. This method of sending the feature code through access channel would improve the transmission efficiency and reduce the access delay.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lencevicius et al. (hereinafter Lecevicius) (US 2004/0204183) in view of Akhteruzzaman et al. (hereinafter Akhteruzzaman) (US 6584316) and Chawla et al. (hereinafter Chawla) (U.S. 6,496,700).

Regarding **claim 9**, the combination of Lencevicius and Akhteruzzaman discloses all the particulars of the claim except wherein the threshold level lies in the range of -85dB to -90 dB. However, Chawla teaches in an analogous art, wherein the threshold level lies in the range of -85dB to -90 dB (col. 19, lines 37-40). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the threshold level lies in the range of -85dB to -90 dB.

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lencevicius et al. (hereinafter Lecevicius) (US 2004/0204183) in view of Akhteruzzaman et al. (hereinafter Akhteruzzaman) (US 6584316) and Haub (US 2004/0152429).

Regarding claim 12, the combination of Lencevicius and Akhteruzzaman discloses all the particulars of the claim except wherein said wireless telephone operates in a CDMA network and wherein said circuitry monitors the ratio E_c / I_o , wherein E_c is a measure of carrier strength and I_o is a measure of interference. However, Haub teaches in an analogous art, discloses the wireless telephone, wherein said wireless telephone operates in a CDMA network and wherein said circuitry monitors the ratio E_c / I_o , wherein E_c is a measure of carrier strength and I_o is a measure of interference (Paragraph [0022], lines (11-15)). Therefore, it would have

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been obvious to one of ordinary skill in the art at the time of the invention to include the wireless telephone, wherein said wireless telephone operates in a CDMA network and wherein said circuitry monitors the ratio E_c / I_o , wherein E_c is a measure of carrier strength and I_o is a measure of interference.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MUTHUSWAMY G. MANOHARAN whose telephone number is (571)272-5515. The examiner can normally be reached on 7:00AM-2:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eng George can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/George Eng/
Supervisory Patent Examiner, Art Unit 2617

M.G.Manoharan

